



In re Application of:  
Jonathan B. Quint; Steven H. Dworkin  
Serial No.: 10/749,004  
Docket No. BC1  
Filed: December 30, 2003  
For: BATTERY MANAGEMENT SYSTEM AND APPARATUS  
Group Art Unit: 2863  
Examiner: Bryan Bui

DECLARATION UNDER RULE 131(a)

Jonathan B. Quint and Steven H. Dworkin, the applicants in the above-identified patent application, declare as follows:

That sometime prior to January 30, 2002, Mr. Quint and Mr. Dworkin conceived an invention called BATTERY MANAGEMENT SYSTEM AND APPARATUS fully and completely as set forth in the claims of the application.

That said invention comprised a battery management system having:

a tag associated with a battery;

said tag bearing a unique identifier;

a battery tester for performing tests on said battery;

said battery tester having an input for capturing said unique identifier;

a communication interface between said battery tester and a computer network;

a server having a database for storing battery-related data associated with said

unique identifier transmitted over said computer network.

That said invention also employed a bar code as a tag, and a bar code reader as an input device for capturing the information on the bar code.

That the conception date of the invention is supported by the document bearing the electronic title BatteryCorp Investor PP.ppt, a true and correct printed copy of which is attached, for which the electronic file was last modified on January 30, 2002.

That the invention was built and actually reduced to practice utilizing an internal company test server no later than May 31, 2002, and was tested and worked for its intended purpose. This is evidenced by the document labeled 0000027000000000V.S.R.RAW (created May 31, 2002) showing the successful test data in RAW format which is compatible with a proprietary bar code reading device. A true and correct printed copy of the test data in the electronic document is attached.

That a second embodiment was built and actually reduced to practice utilizing an internal company test server no later than October 25, 2002, and was tested and worked for its intended purpose. This is evidenced by the document labeled 0000026300000033BATTERYCORPTEST.C60 (created October 25, 2002) showing the successful test data in C60 format which is compatible with another proprietary bar code reading device. A true and correct printed copy of the test data in the electronic document is attached.

At least for the period between the conception of the invention and the later actual reduction to practice, Mr. Quint and Mr. Dworkin worked diligently to reduce the invention to practice. The diligence included, without limitation, the acts of:

Procuring a battery testing device for adaptation to the conceived management system;


Building the software platform to implement the system;

Testing the apparatus and system to determine that it worked for its intended purpose;


Making changes or modifications to the system based on the tests;

Monitoring the tests and later installations for customers.

Each of the declarants further declares: that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issuing thereon.

  
Jonathan B. Quint

9/26/05  
Date

  
Steven H. Dworkin

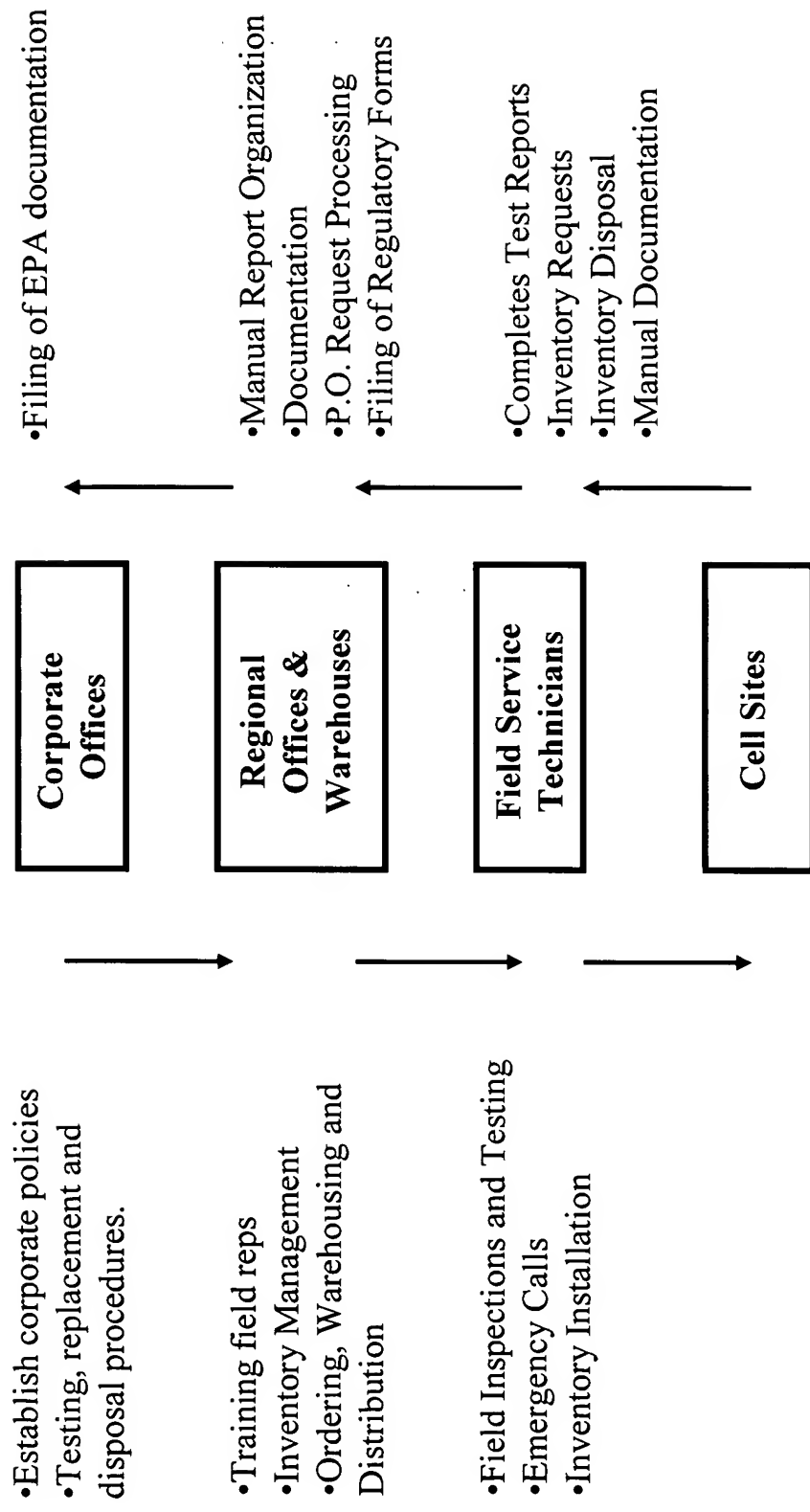
9/26/05  
Date

EXHIBIT 1

(BatteryCorp Investor PP.ppt printout)

TO THE DECLARATION UNDER RULE 131(a) OF  
JONATHAN B. QUINT AND STEVEN H. DWORKIN  
APPLICATION SERIAL NO.: 10/749,004

# Battery Corp.



## **arket Characteristics**

Customer desire to outsource power systems as a non core-competency task

Perishable product = perpetual replenishment requirements.

High cost of battery system failure.

Customers use batteries from multiple manufacturers.

Management services not performed by battery manufacturers.

Batteries are highly standardized products.

## **ndustry Pain**

Field failure risk:

Revenue loss

Customer dissatisfaction

High cost of repair (\$2500 per service call)

Preventative maintenance programs not widely implemented.

Technology required to monitor and track batteries.

Budgeting for replenishment neglected.

Inventory Management:

Cost of Inventory

# Market Opportunities

## Wireless Market

The U.S wireless market is in its infancy with approximately 40,000 sites built to date. Batteries are a critical component in the power systems used for cell sites, because they ensure continued operation in the event of a loss of power, whether it is momentary or for an extended period of time.

This large market is served by fewer than a dozen providers. All these providers utilize only a few different battery products. Therefore an entire industry can be serviced with but a handful of battery types. This will minimize our inventory expense.

**Continual Demand.** Battery deployment in power systems for the U.S wireless market attained significant volume in 1994; new deployments now average approximately 7,000 per year. Average life expectancy of a cell site is 7-12, but the batteries must be replaced every 4-6 years to ensure proper functionality and reliability.

**Accelerated Growth.** The U.S market for cell sites is poised for dramatic growth over the next 10 years as digital technology is expanded and “G3” technology (3<sup>rd</sup> generation of digital services) is introduced. Digital transmissions operate at higher frequencies than analog signals, and therefore require closer spacing of cell towers. This higher density of sites coupled with increased consumer demand for digital services points to a major increase in the rate of growth for cell sites and for the batteries incorporated into them.

## Industry Background

The battery industry contains many segments. The total market exceeds \$15 billion in the United States, \$40 billion globally. Sales by U.S. manufacturers grew at an average annual rate 2.9% during the first half of the 1990s (according to Business Trend Analysis, Inc., a market research company). However, U.S. sales accelerated to 8% by the end of the decade (according to Business Communications Company, Inc., another researcher) due to strong demand in high-technology applications.

The growth rate is strongest in rechargeable battery applications such as wireless telecommunications, uninterruptable power supply (UPS) and medical batteries.

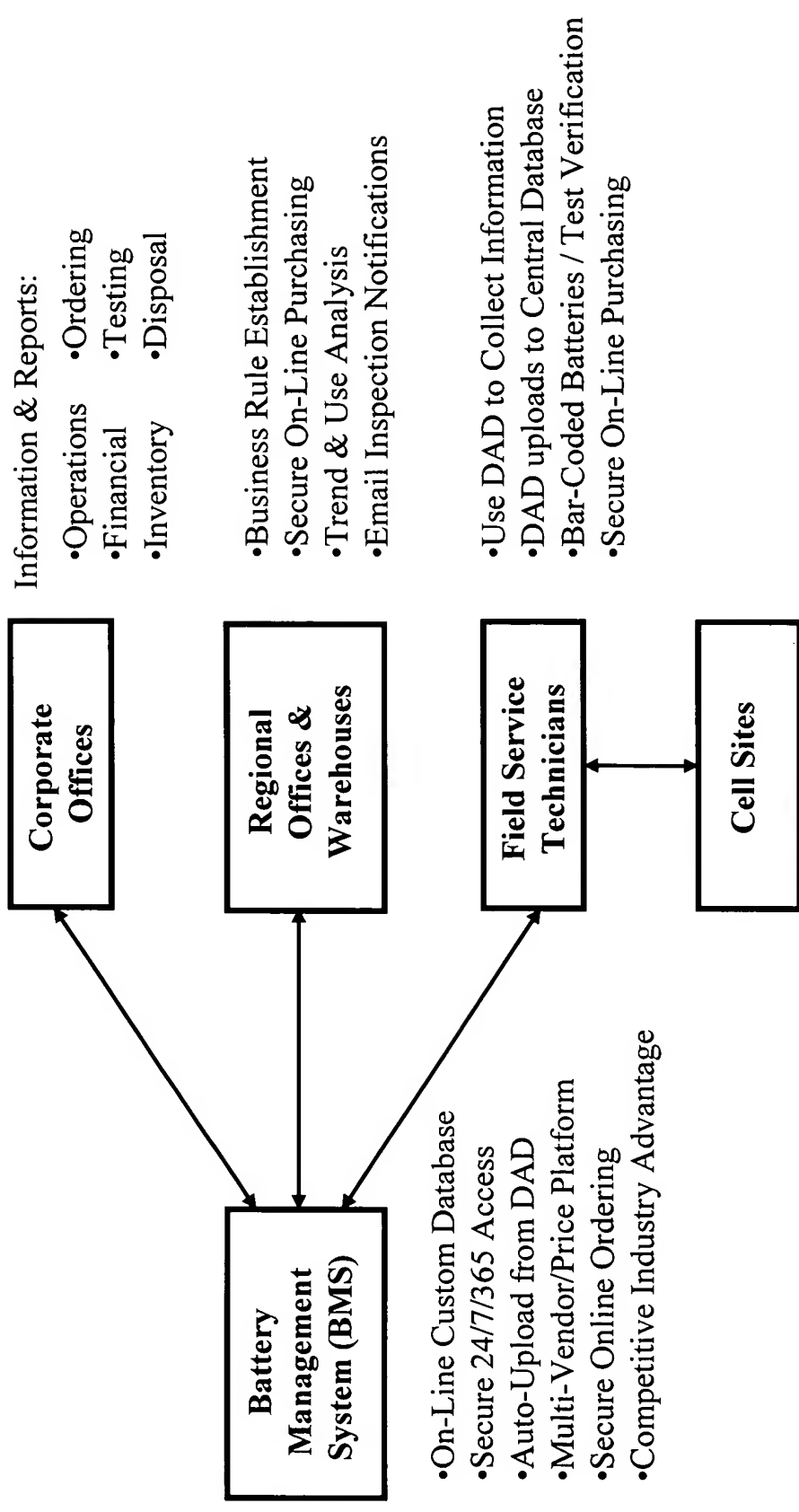
The Industrial battery market segment, estimated at \$2 billion in the US and \$4 billion globally, consists of stationary battery systems for applications including telecommunications (both consumer and infrastructure), UPS, security systems, emergency lighting, medical, and instrumentation systems.

The Industrial battery market segment is growing at over 10% per year, according to Business Trend Analysis. Of those sales, an estimated 40% (\$800 million) are for replacement batteries. Of these, 30% (\$240 million) are for the telecom market. This is the market segment that BatteryCorp has initially targeted for its fulfillment solution.



# Battery Corp.

## BMS Methodology for Battery Management



### **ustomer Benefits**

atteryCorp offers its customers a reduction in the number and cost of field service calls, the elimination of battery inventory, and outsourced environmental monitoring services. Specific benefits include:

Reduced service expenses by planned replacement scheduling

Elimination of environmental tracking and recycling expenses

Elimination of battery inventory reduces direct material costs

JIT delivery eliminates downtime

Online purchasing improves efficiency

Reduced personnel expense

EXHIBIT 2

(0000027000000000V.S.R.RAW printout)

TO THE DECLARATION UNDER RULE 131(a) OF  
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APPLICATION SERIAL NO.: 10/749,004

0000027000000000V.S.R.RAW

"VOICESTREAM"

"1052"

" 0.51"

"","31-MAY-2002 14:25:20"," 9.040","65535.000","13.135","0"

"VOICESTREAM"

"1053"

" 0.51"

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"VOICESTREAM"

"1054"

" 0.50"

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"VOICESTREAM"

"1055"

" 0.50"

"","31-MAY-2002 14:31:19"," 9.009","65535.000","13.135","0"

EXHIBIT 3

(0000026300000033BATTERYCORPTEST.C60 printout)

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APPLICATION SERIAL NO.: 10/749,004

0000026300000033BATTERYCORPTEST.C60

Version Stamp;Midtronics CTM-300/CTM-100 MicroCelltron Win32 Interface Version; 200  
Site Location;  
Site Identity;  
Site Current Load;  
Site Projected Run Time;  
Site String Number ID;  
Site Number Of Strings;  
Site System Voltage;  
Site Installation Date;  
Battery Manufacturer;  
Battery Type;  
Battery Model;  
Battery Amp Hour Rating;  
Battery Expected Run Time;  
Battery Jars Per String;  
Battery Cells Per Jar;  
Battery Mfg Date;  
String Float Current;  
Other 1;  
Other 2;  
Other 3;  
Reference Value;900  
Reference Temperature;19  
Reference Date;10/18/02  
Reference Time;13:23  
String Average;906  
High Jar;1  
Low Jar;8  
String Percent Of Reference;104  
String Percent Of Hi Jar;90  
String Warn Percent;70  
String Fail Percent;60  
Jar Warn Percent;70  
Jar Fail Percent;60  
Volts Per Jar;12  
Strap Calculation;N  
Jar Index;1;1  
Jar Volts;1;12.92  
Jar G;1;1002  
Jar Percent Of Reference;1;115  
Strap Gravity;1;  
Strap Discharge;1;  
Jar Index;2;2  
Jar Volts;2;12.92  
Jar G;2;984  
Jar Percent Of Reference;2;113  
Strap Gravity;2;  
Strap Discharge;2;  
Jar Index;3;3  
Jar Volts;3;12.98  
Jar G;3;984  
Jar Percent Of Reference;3;113  
Strap Gravity;3;  
Strap Discharge;3;  
Jar Index;4;4  
Jar Volts;4;12.95  
Jar G;4;978  
Jar Percent Of Reference;4;112  
Strap Gravity;4;  
Strap Discharge;4;  
Jar Index;5;5  
Jar Volts;5;12.98  
Jar G;5;948  
Jar Percent Of Reference;5;109

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Strap Gravity;5;  
Strap Discharge;5;  
Jar Index;6;6  
Jar Volts;6;12.96  
Jar G;6;972  
Jar Percent Of Reference;6;112  
Strap Gravity;6;  
Strap Discharge;6;  
Jar Index;7;7  
Jar Volts;7;12.93  
Jar G;7;978  
Jar Percent Of Reference;7;112  
Strap Gravity;7;  
Strap Discharge;7;  
Jar Index;8;8  
Jar Volts;8;12.93  
Jar G;8;24  
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Strap Gravity;8;  
Strap Discharge;8;  
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Jar Volts;9;12.90  
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Jar Percent Of Reference;11;113  
Strap Gravity;11;  
Strap Discharge;11;  
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